

plumbing end up in disaster. I should also like to extend grateful thanks to Mr. R. H. Harris, of the Experimental Laboratory of The British Museum (Natural History) in London, for the cheerful, stimulating and willing help and advice he has shared from his store of expert knowledge concerning the processes described.

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A NEW SPECIES OF THE GENUS *PYROMORPHA*  
HERRICH-SCHAEFFER (PYROMORPHIDAE)

ANDRÉ BLANCHARD

P.O. Box 20304, Houston, Texas 77025

Some male specimens of this species have been in my collection for over five years. I have delayed describing it, hoping that I would take at least one female. In this I have been disappointed. As I have a sizeable series of males I am offering this description of it.

*Pyromorpha caelebs* A. Blanchard, new species

Male (Fig. 1): Head black, closely scaled, except on vertex where some long scales project forward between antennae or lean against their scapes. Tongue strong. Labial palpus short, filiform. Maxillary palpus vestigial. Antenna bipectinate, of about 35 segments, black, closely scaled above; each pectination slightly swollen near apex, tapering to base, bearing two rows of cilia. Collar, thorax, patagiae and abdomen black. Legs slender, closely scaled, black except yellow inner side of foreleg, some yellow scales distally on midfemur; one pair of terminal, rudimentary spurs on mid



Fig. 1. *Pyromorpha caelebs*, Holotype.

and hindtibiae. Forewing above thinly scaled, semitranslucent, black except for ochreous-yellow fascia anteriorly limited on costa, posterior limit of which extends along basal two-thirds of cubital vein, slides in cell to radial vein, and follows  $R_1$  to costa; distal half of fascia well defined, basal half less definite because of sprinkling of yellow scales between cubital and first anal veins; fringe consisting of somewhat irregularly planted, bluish-black, narrow scales. Hindwing above black; very light and narrow sprinkling of yellow scales along costa; fringe similar to that of forewing. Forewing beneath as above, posterior margin of yellow fascia more diffuse. Hindwing beneath as above except for well-marked, yellow fascia between costa and discal cell. Venation of wings as shown in fig. 2;  $R_3$  and  $R_4$  of forewing either separate or connate. Length of forewing: 10 to 12 millimeters.

**Genitalia:** As represented in Figs. 3, 4 and 5. Uncus absent or possibly represented by mucrones on each half of tegumen; these separate except where they meet strongly sclerotized gnathos. Juxta oval with small indentation under aedeagus. Dorsal part of anellus a complicated assemblage of two spiny pads, one on each side of aedeagus, tied together back of it by narrow transtilla, supported on each side from ninth abdominal segment by two sclerotized, contorted arms.

**Female:** Unknown.

**Holotype:** Male, Fort Davis, Texas, Hospital Canyon back of Historical Fort, 18 May 1971, deposited in the National Museum of Natural History. Type n°. 71981.

**Paratypes:** (All males). Fort Davis, Texas, Hospital Canyon, 17 May 1966, six; 11 June 1969, ten; 18 May 1971, thirteen. Davis Mts., Mt. Locke, McDonald Observatory (6700'), 25 May 1968, four; 10 June 1969, five. Fort Davis, one mile north of city near Limpia Creek, 21 May 1971, four. All these paratypes collected in 15 watt fluorescent traps by A. and M. E. Blanchard. Paratypes will be deposited in the National Museum of Natural History, in the American Museum of Natural History and in the British Museum (Natural History). Some will remain in my own collection. There is in the National Museum a specimen labeled only "Kerrville, Texas" which appears to be conspecific; but it was never spread, its wings are wrinkled and, although Kerrville would be an interesting location, I prefer not to make it a paratype.

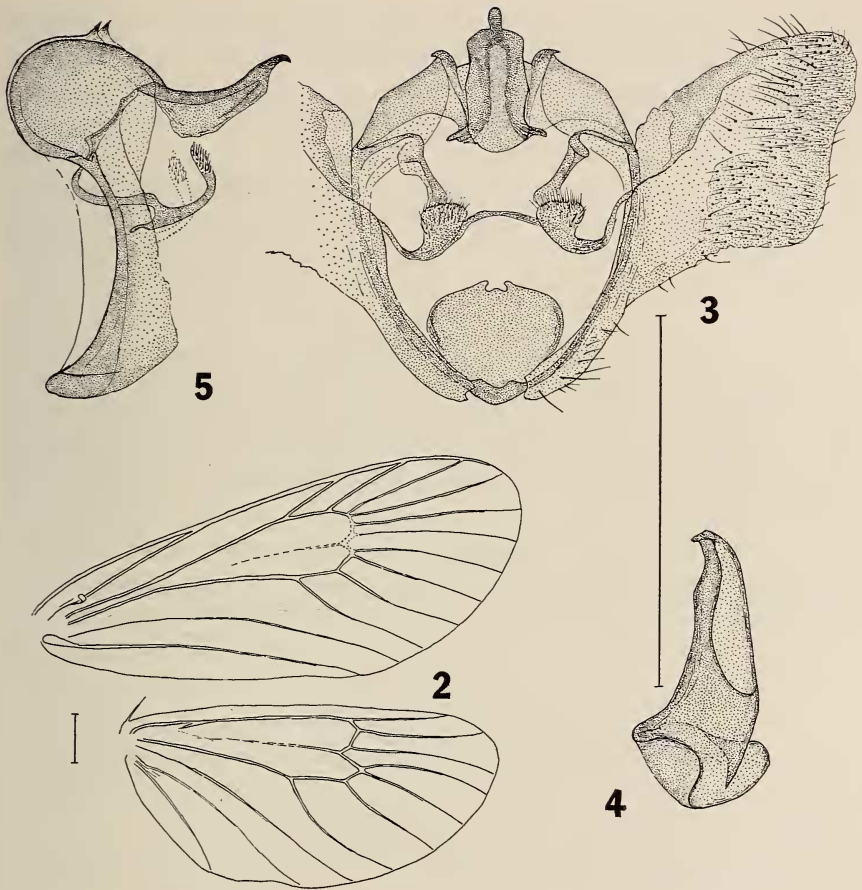


Fig. 2. Venation of wings; Figs. 3, 4 & 5: male genitalia: 3, posteroventral view, valves widely open, aedeagus omitted; 4, aedeagus, lateroventral view; 5, left side view, valves and aedeagus removed. The linear segments represent one millimeter.

The male of *Pyromorpha caelebs* is close to that of *P. dimidiata* Herrich-Schaeffer (1855). They are about the same size and the colors of the background and fascia are close. They can be separated by the following combination of characters: The costa of the forewing of *caelebs* is nearly straight in its basal two-thirds, that of *dimidiata* is much more arched. The forewing of *caelebs* is narrower; the ratio of its length to its midwidth being approximately 2.5 instead of about 2.25 for *dimidiata*. The radial veins  $R_3$  and  $R_4$  of the forewing of *caelebs* are either connate or separate instead of shortly stalked. The ratio of the length of the longest pectinations of the antenna to the width of the flagellum is about 2.5 instead of

about 4; the flagellum is also somewhat stouter. The yellow fascia of *caelebs* is narrower because the costa is less arched, and in its basal half it barely exceeds the cubital vein instead of following the first anal all along its basal half. It is difficult to define exactly how the genitalia differ; the juxta of *caelebs* is oval or very slightly cordate, that of *dimidiata* definitely cordate (concave lateral margins); the gnathos is longer and its base narrower, but the great thickness of the genitalia relative to their width makes it difficult to present on a single conventional preparation a satisfactory view of all the organs and particularly the gnathos.

#### ACKNOWLEDGMENTS

I wish to thank the administration of Fort Davis N.H.S. for the authorization to collect in Hospital Canyon and Mr. Curtis D. Laughlin for letting us set our traps at Mt. Locke on the McDonald Observatory grounds. I am grateful to Dr. R. W. Hodges for his interest and help and for revising the manuscript.

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## THE LIFE HISTORY OF *SCHINIA CITRINELLUS* (NOCTUIDAE)

D. F. HARDWICK

Entomology Research Institute, Canada Department of Agriculture, Ottawa, Ontario

*Schinia citrinellus* (Grote & Robinson, 1870, p. 180) feeds in the larval stage on *Croton californicus* Muell-Arg. *C. californicus* is distributed from southern California to Arizona (Munz, 1963), but *citrinellus* occurs from the southern California deserts eastward at least to central Texas (Brazos Co.), so presumably other species of *Croton* serve as its food plant in the more eastern areas of its range. *Schinia citrinellus* has two annual flight periods, one in the spring and one in late summer and early fall. These probably correspond closely with the blossoming periods of its host plants. The spring flight period on the deserts of southern California extends between the end of March and the middle of June.

#### Behaviour

*Schinia citrinellus* is evidently an exclusively nocturnal species, and no adult activity was noted during daylight hours on the deserts of southern